

# SEQUENCE LISTING

<110> Trimeris, Inc.

<120> HIV-Derived HR1 Peptides Modified to Form Stable Trimers, and  
Their Use In Therapy to Inhibit Transmission of Human  
Immunodeficiency Virus

<130> TRM-001

<150> US 60/414,514

<151> 2002-09-27

<160> 82

<170> PatentIn version 3.2

<210> 1

<211> 59

<212> PRT

<213> Human immunodeficiency virus type 1

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Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln  
1 5 10 15

Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln  
20 25 30

Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val  
35 40 45

Glu Arg Tyr Leu Lys Asp Gln Leu Leu Gly Ile  
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<213> Artificial

<220>

<223> synthesized

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Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu  
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Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu  
20 25 30

Arg Tyr Leu Lys Asp Gln  
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Gly Ser Thr Met Gly Ala Arg Ser Met Thr Leu Thr Val Gln Ala Arg  
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Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala  
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Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr  
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Gly Ser Thr Met Gly Ala Arg Ser Met Thr Leu Thr Val Gln Ala Arg  
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Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala  
20 25 30

Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp Gly Ile Lys  
35 40 45

Gln Leu Gln Ala Arg Ile  
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Gly Ala Arg Ser Met Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser  
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Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln  
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Gln His Leu Leu  
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Gly Ala Arg Ser Met Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser  
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Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln  
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Gln His Leu Leu Gln Leu  
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Gly Ala Arg Ser Met Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser  
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Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln  
20 25 30

Gln His Leu Leu Gln Leu Thr Val  
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Gly Ala Arg Ser Met Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser  
1 5 10 15

Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln  
20 25 30

Gln His Leu Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala  
35 40 45

Arg Ile  
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Ala Arg Ser Met Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly  
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Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln  
20 25 30

His Leu Leu Gln  
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Arg Ser Met Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile  
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Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His  
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Leu Leu Gln Leu  
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Ser Met Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val  
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Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu  
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Leu Gln Leu Thr  
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Met Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln  
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Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu  
20 25 30

Gln Leu Thr  
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Met Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln  
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Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu  
20 25 30

Gln Leu Thr Val  
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Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln  
1 5 10 15

Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln  
20 25 30

Leu Thr

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Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln  
20 25 30

Leu Thr Val  
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Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln  
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Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln  
20 25 30

Leu Thr Val Trp  
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<223> synthesized

<400> 17

Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln  
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Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln  
20 25 30

Leu Thr Val Trp Gly  
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Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln  
1 5 10 15

Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln  
20 25 30

Leu Thr Val Trp Gly Ile  
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Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln  
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Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln  
20 25 30

Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg  
35 40

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Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln  
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Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu  
20 25 30

Thr Val Trp Gly  
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Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu  
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Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp  
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu  
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Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp  
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr  
35 40 45

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Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu  
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Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp  
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu  
35 40 45

Lys

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Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu  
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Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp  
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu  
35 40 45

Lys Asp Gln  
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Ser Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala  
1 5 10 15

Gln Gln His Leu Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln  
20 25 30

Ala Arg Ile Leu  
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<212> PRT

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<220>

<223> synthesized

<400> 26

Ser Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala  
1 5 10 15

Gln Gln His Leu Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln  
20 25 30

Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln  
35 40 45

<210> 27

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<212> PRT

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<220>

<223> synthesized

<400> 27

Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu  
1 5 10 15

Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu  
20 25 30

Ala Val Glu Arg Tyr Leu Lys Asp Gln  
35 40

<210> 28  
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<400> 28

Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp Gly  
1 5 10 15

Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys  
20 25 30

Asp Gln

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<211> 41  
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<400> 29

Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu  
1 5 10 15

Leu Gln Leu Thr Ala Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu  
20 25 30

Ala Val Glu Arg Tyr Leu Lys Asp Gln  
35 40

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Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu  
1 5 10 15

Leu Gln Leu Thr Val Ala Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu  
20 25 30

Ala Val Glu Arg Tyr Leu Lys Asp Gln  
35 40

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Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu  
1 5 10 15

Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Phe  
20 25 30

Gly Ile Arg Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu  
35 40 45

Lys

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Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu  
1 5 10 15

Leu Arg Ala Ile Glu Ala Gln Gln His Ala Leu Gln Ala Thr Val Trp  
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu  
35 40 45

Lys

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Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu Ile His  
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Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu  
20 25 30

Leu Leu Glu Leu  
35

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<400> 34

Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu  
1 5 10 15

Leu Arg Ala Ile Glu Ala Gln Gln His Ala Leu Gln Ala Thr Val Trp  
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu  
35 40 45

Lys Asp Gln  
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Gln Ala Arg Gln Leu Val Ser Gly Leu Val Gln Gln Gln Asn Asn Ile  
1 5 10 15

Leu Arg Ala Leu Glu Ala Thr Gln His Ala Val Gln Ala Leu Val Trp  
20 25 30

Gly Val Lys Gln Leu Gln Ala Arg Val Leu Ala Leu Glu Arg Tyr Ile  
35 40 45

Lys

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<400> 36

Gln Ile Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu  
1 5 10 15

Leu Arg Ala Ile Glu Ala Ile Gln His Ala Leu Gln Ala Ile Val Trp  
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu  
35 40 45

Lys

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<400> 37

Gln Ala Arg Gln Leu Val Ser Gly Leu Val Gln Gln Gln Asn Asn Ile  
1 5 10 15

Leu Arg Ala Leu Glu Ala Thr Gln His Ala Val Gln Ala Leu Val Trp  
20 25 30

Gly Val Arg Gln Leu Gln Ala Arg Val Leu Ala Leu Glu Arg Tyr Ile  
35 40 45

Lys

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<400> 38

Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu  
1 5 10 15

Leu Arg Ala Ile Glu Ala Thr Gln His Ala Val Gln Ala Leu Val Trp  
20 25 30

Gly Val Lys Gln Leu Gln Ala Arg Val Leu Ala Leu Glu Arg Tyr Ile  
35 40 45

Lys Asp Gln  
50

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Gln Ala Arg Gln Leu Val Ser Gly Leu Val Gln Gln Gln Asn Asn Ile  
1 5 10 15



Leu Arg Ala Leu Glu Ala Gln Gln His Ala Leu Gln Ala Thr Val Trp  
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Val Leu Ala Leu Glu Arg Tyr Ile  
35 40 45

Lys Asp Gln  
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Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu  
1 5 10 15

Leu Arg Ala Ile Glu Ala Gln Gln His Ala Leu Gln Ala Thr Val Trp  
20 25 30

Gly Val Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu  
35 40 45

Lys Asp Gln  
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Gln Ala Arg Gln Leu Val Ser Gly Leu Val Gln Gln Gln Asn Asn Ile  
1 5 10 15

Leu Arg Ala Leu Glu Ala Thr Gln His Leu Val Gln Leu Leu Val Trp  
20 25 30

Gly Val Lys Gln Leu Gln Ala Arg Val Leu Ala Leu Glu Arg Tyr Ile

35

40

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Lys

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&lt;400&gt; 42

Gln Ile Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu  
 1 5 10 15

Leu Arg Ala Ile Glu Ala Ile Gln His Leu Leu Gln Leu Ile Val Trp  
 20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu  
 35 40 45

Lys

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&lt;400&gt; 43

Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu  
 1 5 10 15

Leu Gln Leu Thr Val Phe Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu  
 20 25 30

Ala Val Glu Arg Tyr Leu Lys Asp Gln  
 35 40

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Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu  
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Leu Gln Leu Thr Val Trp Gly Ile Ala Gln Leu Gln Ala Arg Ile Leu  
20 25 30

Ala Val Glu Arg Tyr Leu Lys Asp Gln  
35 40

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<400> 45

Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu  
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Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Ala Ala Arg Ile Leu  
20 25 30

Ala Val Glu Arg Tyr Leu Lys Asp Gln  
35 40

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Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu

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25

30

Ala Val Glu Arg Tyr Leu Lys Asp Gln  
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 atcctggctg ttgaacgtta cctgaaa 147

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 atcctggctg ttgaacgtta cctgaaa 147

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 cag 123  
  
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 cag 123  
  
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 cag 123

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<210> 54  
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cag 123

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Trp Xaa Xaa Trp Xaa Xaa Xaa Ile  
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Trp Xaa Xaa Trp Xaa Xaa Xaa  
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Trp Xaa Xaa Trp Xaa  
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Xaa Trp Xaa Trp Xaa  
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<400> 76

Xaa Trp Xaa Trp Xaa Xaa  
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<210> 77

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Xaa Trp Xaa Trp  
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Trp Xaa Trp Xaa Xaa Xaa Trp  
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Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Ala Thr Val Trp  
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu  
35 40 45

Lys Asp Gln  
50

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<400> 82

Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu  
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Leu Gln Ala Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu  
20 25 30

Ala Val Glu Arg Tyr Leu Lys Asp Gln  
35 40